REMARKS

Claims 1-24 remain pending in this application.

The Examiner rejected claims 1-3, 8-10, 15, 16, 19-21, and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,477,249 (***Williamson***) in view of U.S. Patent No. 6,625,278 (***Hendricks***) and further in view of U.S. Patent No. 5,802,169 (***Frantz***). Applicants respectfully traverse this rejection.

As described in the patent application, one or more embodiments of the present invention are directed to a multi-level impedance matching scheme. For example, in the illustrated embodiment, the nominal Z block 263 adjusts the input impedance to a first preselected level, which represents a general range of the desired impedance level. Another block, namely the AISN block 358, further adjusts the input impedance level from the fist preselected level (determined by the Z block 263) to a second preselected level, which may be closer to the desired impedance level relative to the first preselected level. In an effort to arrive at the desired impedance level, the Z-filter block 375 may adjust at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value. In this manner, the impedance level can be efficiently adjusted to the desired level. One or more of the claims are directed to one or more of these described features.

For example, consider claim 19. Claim 19 calls for the subscriber line interface circuit to include a first loop that is adapted to adjust an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal. Claim 19 further includes a digital signal processor comprising a second feedback loop adapted to adjust the input

impedance of the apparatus from the first preselected value to a second preselected value and a third feedback loop adapted to adjust at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value.

The Examiner asserts that these claimed features are taught by ***Hendricks***. The Applicants respectfully disagree. According to the Examiner, element 170 of Figure 1of ***Hendricks*** corresponds to the claimed feature of the "first loop that is adapted to adjust an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal." *See* page 3 of the Office Action, dated 5/12/2004. The Examiner further asserts the element 195 corresponds to the claimed "digital signal processor." *Id.* According to the Examiner, element 160, which is a controlled current source, corresponds to the next claimed feature of a "second feedback loop adapted to adjust the input impedance of the apparatus from the first preselected value to a second preselected value." *Id.* The Examiner also contends that element 110 of Figure 1 of ***Hendricks*** corresponds to the claimed feature of "a third feedback loop adapted to adjust at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value." *Id.*

As an initial matter with respect to claim 19, although the Examiner argues that element 195 corresponds to the claimed "digital signal processor," the Examiner then relies on elements from ***Hendricks*** that are not part of element 195 in rejecting claim 19. For example, claim 19 specifies that the digital signal processor adjusts the input impedance of the apparatus from the first preselected value to a second preselected value. According to the Examiner, it is the current source that supposedly performs this adjustment. However, the current source 160 is not part of element 195, which the Examiner contends is the "digital signal processor." Thus, by the

Examiner's own admission, even if element 160 were to perform this adjustment act (and it does not, for reasons discussed below), it is not the digital signal processor (*i.e.*, element 195) that performs this claimed adjustment. For this reason alone, claim 19 and its dependent claims are allowable.

Claim 19 is allowable for other reasons as well. Claim 19 calls for adjusting an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal, and further calls for adjusting the input impedance of the apparatus from the first preselected value to a second preselected value. The Examiner asserts that element 170 of Figure 1of ***Hendricks*** adjusts the input impedance to the first preselected value, and that element 160 (the current source) adjusts the input impedance from the first preselected value to the second preselected value. The Applicants respectfully disagree. ***Hendricks*** clearly states that the current source 160 provides a constant current based on a voltage level based on the control signal 132, which is comprised IRX signal (output of the digital filter 110) and the ITX signal (output of the modem 150). ***Hendricks*** col. 3, lines 6-12. ***Hendricks*** further specifies that the digital filter 110 provides the IRX signal based on a feedback signal 134 from the central office 152. *Id.* at col. 3, lines 12-14. Thus, ***Hendricks*** teaches that the current source 160, based on the ITX and IRX signals, creates a voltage across a reference-impedance element 170. *Id.* col. 1, lines 60-62.

By definition, a current source 160 cannot adjust the input impedance of the apparatus from the first preselected value to a second preselected value. This is because the current source 160 merely acts based on the variable conditions, in this case variable signals ITX (a signal from the modem 150) and IRX (a feedback signal from the central office 152). As such, the current source 160 cannot adjust the input impedance from one preselected value to another. While

Hendricks discloses that the transfer function of the digital filter 110 can be preset or programmable (see col. 3, lines 14-17), it expressly teaches otherwise with respect to the control source 160, which, as noted, is controlled by variable signals ITX and IRX. As such, there cannot be an adjustment from a first preselected value to another preselected value. For at least this reason, claim 19 and its dependent claims are allowable. Furthermore, the remaining claims are also allowable for this reason.

In light of the reasons presented above, Applicants respectfully assert that claims 1-24 are allowable. Accordingly, a Notice of Allowance is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Houston, Texas telephone number (713) 934-4064 to discuss the steps necessary for placing the application in condition for allowance.

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Respectfully submitted,

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